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TITLE: Mobile telephone communication
system transmits new telephone number to registered user
and stores new telephone number in telephone
directory of registered user

PATENT-ASSIGNEE: MITSUBISHI ELECTRIC CORP.[MITQ]

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ABSTRACTED-PUB-NO: JP2001245050A

BASIC-ABSTRACT:

NOVELTY - An user of a mobile terminal transmits his new telephone to users whose identification codes are registered in his telephone directory. The new telephone number is registered into telephone directory of registered user.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also

included for mobile
telephone used in mobile communication system.

USE - Mobile telephone communication system with changed
telephone number
notification function.

ADVANTAGE - Since the new telephone number is automatically
transmitted to the
user, registered into the telephone directory of the
movement terminal, change
of users terminal is made simple with high efficiency and
reduces the
remarkable increase in the communication traffic for the
notification and
redirect of circuit connection demand with respect to an
old telephone number.

DESCRIPTION OF DRAWING(S) - The figure shows the flow chart
explaining number
change notice processes involved. (Drawing includes
non-English language
text).

CHOSEN-DRAWING: Dwg.11/22

TITLE-TERMS: MOBILE TELEPHONE COMMUNICATE SYSTEM TRANSMIT
NEW TELEPHONE NUMBER
REGISTER USER STORAGE NEW TELEPHONE NUMBER
TELEPHONE DIRECTORY
REGISTER USER

DERWENT-CLASS: W01

EPI-CODES: W01-C02B5; W01-C02B9;

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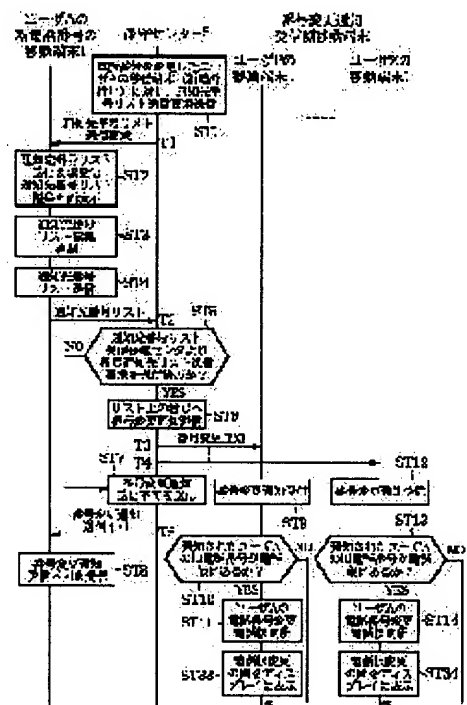
MATSUYAMA KOJI

(54) MOBILE COMMUNICATION SYSTEM AND MOBILE TERMINAL USED IN THE SAME

(57)Abstract:

PROBLEM TO BE SOLVED: To solve the problem that there is a remarkable increase, etc., in communication traffic for redirection, etc., of requests for a line connection for notification and a line connection to an old telephone number when telephone numbers are changed in a conventional mobile communication system.

SOLUTION: A new telephone number is automatically transmitted to a user registered in the telephone directory of a mobile terminal 1, and the number is registered in the telephone directory of the mobile terminal 1 of a transmission destination.



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CLAIMS

[Claim(s)]

[Claim 1] Mobile communication system equipped with the move terminal with which the individual identification number was assigned to each while having the telephone directory and data transceiver function which are characterized by providing the following, the exchange which establishes the communication line of these move terminals, and the communication line which connects the exchanges. The home location register which matches and memorizes the identification number of the old move terminal and the identification number of a new move terminal which the user uses for the cable network constituted by the above-mentioned exchange and the communication line for every terminal change user. The receiving means which carries out data reception of two or more of other users' identification number registered into the telephone directory from the above-mentioned old move terminal or the new move terminal. A registration means to establish the transmitting means which carries out data transmission of the identification number of the above-mentioned terminal change user's new move terminal individually to the move terminal of two or more of other users concerned, and to register into the above-mentioned move terminal the identification number by which data transmission was carried out from the above-mentioned transmitting means at a telephone directory.

[Claim 2] A receiving means is mobile communication system according to claim 1 characterized by carrying out data reception of a user's identification number set as the notice important point based on the notice necessity set up for every registration user of a telephone directory.

[Claim 3] The move terminal equipped with a data transceiver means to transmit and receive data between the telephone directory which registers the identification number of other move terminals, and other move terminals, and a registration means to register into the telephone directory concerned the identification number of the terminal change user transmitted through the exchange, in the move terminal which communicates mutually using the communication line established by the exchange using the individual identification number.

[Claim 4] A registration means is a move terminal according to claim 3 characterized by carrying out updating registration at the identification number of the terminal change user to whom the identification number of the old move terminal concerned has been transmitted through the exchange when the identification number of a terminal change user's old move terminal is registered.

[Claim 5] A registration means is a move terminal according to claim 3 characterized by carrying out additional registration of user name and identification number concerned of the terminal change user concerned when the identification number of a terminal change user's old move terminal is not registered.

[Claim 6] A registration means is a move terminal according to claim 3 characterized by establishing a setting maintenance means to hold a setup which chooses one side of the two modes concerned while having the mode in which an identification number is registered into a telephone directory, and the mode in which it would be automatically registered into a telephone directory if data reception of the identification number is carried out, after obtaining the registration confirmed by the user of a personal digital assistant.

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] This invention relates to the mobile communication system which establishes communication between move terminals because identification numbers, such as the telephone number and the Internet protocol address, are assigned for every move terminal and assign a communication line at the exchange based on this identification number, and relates to improvement which can raise convenience in case a user changes a move terminal and the identification number of the user concerned is especially changed with the change.

[0002]

[Description of the Prior Art] Conventionally, if possible, there was communication system for fixed-line telephones which establishes a circuit at the exchange, for example and closes communication of fixed-line telephone machines as communication system. And in the communication system for these fixed-line telephones, when telephone number allocation change arose with a move of a user etc., the method which notifies the new telephone number with voice to the fixed-line telephone machine which outputted the circuit establishment demand to the old fixed-line telephone number was adopted.

[0003] Moreover, when JP,7-298326,A has the circuit establishment demand to the old fixed-line telephone number, the communication system which deals with it as a thing to a new fixed-line telephone number is indicated. Drawing 21 is the system configuration view showing the hardware composition of this conventional whole communication system. The dispatch telephone with which 40 outputs the circuit establishment demand to the old fixed-line telephone number in drawing, The character representation machine by which 41 was connected to the dispatch telephone 40, the originating exchange in which 42 holds this dispatch telephone 40, The old telephone to which, as for 43, the old fixed-line telephone number was assigned, the old exchange in which 44 holds this old telephone 43, The new telephone to which, as for 45, the new fixed-line telephone number was assigned, the new exchange in which 46 holds this new telephone 45, and 47 and 48 are telephone trunk lines which connect these exchanges 42 and 44 and 46 comrades.

[0004] They are the memory which 49 is prepared in the old exchange 44, and the switch which performs circuit establishment processing based on the telephone number, and 50 are prepared in the old exchange 44, and matches and memorizes the old telephone number and the new telephone number, the audio output device with which 51 was prepared in the old exchange 44, and transfer equipment which 52 is prepared in the old exchange 44 and performs transfer processing.

[0005] Drawing 22 is a telephone number correspondence table memorized by the above-mentioned memory 50. As for 53, as for the new telephone number column and 55, in drawing, the old telephone number column and 54 are [a user's library-name column and 56] the written columns of a new user's existence of the old telephone number.

[0006] Next, operation is explained. If the circuit establishment demand to the old fixed-line telephone

number is outputted from the dispatch telephone 40, the demand concerned will be transmitted from an originating exchange 42 to the old exchange 44. At the old exchange 44, the telephone number correspondence table where transfer equipment 52 is memorized by memory 50 is searched, and when the telephone number concerning the demand concerned is the old telephone number, the above-mentioned demand is further transmitted to the new exchange 46. At the new exchange 46, the new telephone 45 is called based on this transmitted circuit establishment demand, and when there is a response, the circuit between the new telephone 45 and dispatch telephone 40 is established. Then, these two telephones 40 and 45 exchange a user's speech information and data information.

[0007]

[Problem(s) to be Solved by the Invention] Since the conventional communication system is constituted as mentioned above, if a user's telephone number arises with change (43->45) of telephone, it will be necessary to carry out redirection of the line connection demand to the old telephone number among the exchanges 42, 44, and 46, or to notify the new telephone number. If a communications traffic tends to increase remarkably or the user itself is going to perform the above-mentioned notice, the user concerned telephones to each telephone number, and that must be notified. the burden becomes large or consequently, further Since the new telephone number is not known when it begins after notice service of the above-mentioned new telephone number was closed, and other users telephone, the technical problem of it becoming impossible to contact etc. will arise.

[0008] By the way, in the mobile communication system using a move terminal, various kinds of new move terminals are thrown in every year, and it is in a commercial-scene trend which raises the convenience of the move terminal itself. And in spite of also changing the identification number in many cases by making a model change etc. in such a move terminal Since communication system for fixed-line telephone machines which was mentioned above in mobile communication system is used as it is fundamentally, The inconvenient pod derangement of the various kinds mentioned above generated with model change etc. in a user will arise, and in order to avoid such a problem, change of a move terminal is shelved in many cases.

[0009] It was made in order that this invention might solve the above technical problems, and it aims at obtaining the mobile communication system which raised convenience in case identification numbers, such as a user's telephone number, are changed.

[0010]

[Means for Solving the Problem] The move terminal with which the individual identification number was assigned to each while the mobile communication system concerning this invention was equipped with the telephone directory and the data transceiver function. In mobile communication system equipped with the exchange which establishes the communication line of these move terminals, and the communication line which connects the exchanges The home location register which matches and memorizes the identification number of the old move terminal and the identification number of a new move terminal which the user uses for the cable network constituted by the above-mentioned exchange and the communication line for every terminal change user, The receiving means which carries out data reception of two or more of other users' identification number registered into the telephone directory from the above-mentioned old move terminal or the new move terminal, The transmitting means which carries out data transmission of the identification number of the above-mentioned terminal change user's new move terminal individually to the move terminal of two or more of other users concerned is established, and a registration means to register into a telephone directory the identification number by which data transmission was carried out from the above-mentioned transmitting means is prepared in the above-mentioned move terminal.

[0011] The mobile communication system concerning this invention carries out data reception of the identification number of the user by whom the receiving means was set as the notice important point based on the notice necessity set up for every registration user of a telephone directory.

-----[0012] The move terminal concerning this invention is equipped with a data-transceiver means to transmit and

receive data between the telephone directory which registers the identification number of other move terminals, and other move terminals, and a registration means to register into the telephone directory concerned the identification number of the terminal change user transmitted through the exchange, in the move terminal which communicates mutually using the communication line established by the exchange using the individual identification number.

[0013] The move terminal concerning this invention carries out updating registration at the identification number of the terminal change user by whom the identification number of the old move terminal concerned has been transmitted to the registration means through the exchange when the identification number of a terminal change user's old move terminal is registered. *← Add the # when the registrant's directory does not have the modified #.*

[0014] As for the move terminal concerning this invention, a registration means carries out additional registration of user name and identification number concerned of the terminal change user concerned, when the identification number of a terminal change user's old move terminal is not registered.

[0015] The move terminal concerning this invention establishes a setting maintenance means to hold a setup as which one side of the two modes concerned is chosen while being equipped with the mode in which an identification number is registered into a telephone directory, and the mode in which it will be automatically registered into a telephone directory if data reception of the identification number is carried out, after a registration means obtains the registration confirmed by the user of a personal digital assistant.

[0016]

[Embodiments of the Invention] Hereafter, one gestalt of implementation of this invention is explained.

Gestalt 1. drawing 1 of operation is the system configuration view showing the hardware composition of the whole mobile communication system by the gestalt 1 of implementation of this invention. The move terminal which the telephone number from which 1 differs mutually, respectively is assigned in drawing, and each user uses, The base transceiver station which 2 gives radio between this move terminal 1, respectively, and 3 The exchange, The trunk line between the exchanges of the others [4] besides the exchange 3 concerned and illustration (communication line), 5 is equipped with the home location register 6 which matched two or more names and telephone numbers of a user, and offer of service and the maintenance center (the receiving means, transmitting means) which performs maintenance to the move terminal 1, and 7 are base transceiver station control units which connect the exchange 3 and a base transceiver station 2. Hereafter, the settlement mutually connected by wire circuits, such as this base transceiver station 2, the exchange 3, a trunk line 4, the maintenance center 6, and the base transceiver station control unit 7, is called cable network. In addition, the above-mentioned trunk line 4 is connected to other equipment and other cable networks in mobile communication system. Moreover, this drawing is an example to the last.

[0017] Drawing 2 is the block diagram showing the composition of the move terminal 1 by the gestalt 1 of implementation of this invention. The transceiver way which outputs the speech information from the user of others [**** / that 8 inputs a user's speech information] in drawing, The data-storage section which memorizes the telephone directory with which 9 consists of two or more names and telephone numbers of a user, the display whose 10 displays data information, a telephone directory, etc., and the control section (a registration means --) which 11 equips with the edit function and its I/O function of stored data of the data-storage section 9 A data transceiver means, the multiplexing section to which 12 multiplexes the output signal of a control section 11 to a sending signal, The transceiver section which outputs the input signal which 13 transmitted the antenna, 14 transmitted the output of the multiplexing section 12 from the antenna 13, and the antenna 13 received to the transceiver way 8 and a control section 11, and 15 are the data input sections which input data to a control section 11.

[0018] Next, operation is explained. In case a user telephones using the move terminal 1, first, he inputs the telephone number from the data input section 15, or chooses a partner's telephone number from the telephone directory in the data-storage section 9. Then, in a control section 11, the circuit establishment demand signal over the telephone number concerned is generated; this circuit establishment demand signal is multiplexed by

the sending signal in the multiplexing section 12, and electric power is supplied to it by the antenna 13 from the transceiver section 14, and it is emitted as an electric wave.

[0019] A base transceiver station 2 receives the electric wave from the move terminal 1 concerned, and generates and outputs the input signal based on this received electric wave. The input signal concerned is transmitted to the exchange 3 through the base transceiver station control unit 7. This exchange 3 outputs a call signal to other base stations 2 and base transceiver station control units 7 based on correspondence data with the base transceiver station 2 which holds the move terminal 1 currently collected beforehand and its move terminal 1 etc. And if a reply signal is obtained from the move terminal 1 of the partner concerned according to this call signal, the exchange 3 concerned will assign a predetermined band and will establish the circuit between the above-mentioned move terminal 1 and one comrades. Then, these two move terminals 1 and 1 exchange a user's speech information and data information. Moreover, if line disconnection processing is made on one of the transceiver ways 8, the exchange 3 will release the above-mentioned band and will cut a circuit.

[0020] Moreover, when a user operates a telephone directory, according to the telephone directory read-out directions from the data input section 15, a control section 11 calls a telephone directory from the data-storage section 9, and displays on a display 10. It is in this state, and if edit directions and reference directions are further inputted from the data input section 15, a control section 11 will edit or (change, an addition, deletion) search the content of storage of the data-storage section 9, and will display the result on a display 10.

[0021] Drawing 3 is the flow view showing the notice processing of a changed number at the time of User's A telephone number being changed by change of the move terminal 1 etc. in the mobile communication system by the gestalt 1 of implementation of this invention. In this drawing, time flows from a top to the bottom and a left end vertical line the processing in User's A new move terminal 1 bought again processing [in / the maintenance center 5 / in the vertical line of the right-hand] -- the vertical line of further right-hand -- the above -- the processing in the move terminal 1 of other users P by whom a name and the telephone number were registered into the telephone directory of the new move terminal 1 a right end vertical line -- the above -- the processing in the move terminal 1 of other users P by whom a name and the telephone number were registered into the telephone directory of the new move terminal 1 is shown In addition, in advance of processing of this drawing, at the time of a change, name, the old telephone number, and the new telephone number of the user A concerned shall match, and shall be registered into the home location register 6.

[0022] And ST1 is a list Request-to-Send generation step to which the maintenance center 5 generates the Request to Send of a notice first-move number list to User's A new move terminal 1. And this list Request to Send is transmitted to User's A new move terminal 1 from the maintenance center 5 (timing T1), and the list Request-to-Send screen shown in drawing 4 is displayed on the display 10 of the move terminal 1 concerned according to this reception. The address of the access place at the time of progressing to the following procedure is specified to be this display. In addition, the above-mentioned list Request to Send is transmitted using the data communication facility in the move terminal 1 of users, such as an E-mail.

[0023] ST2 is a display step which accesses the address in which the telephone directory within the end of a local it was specified based on the above-mentioned list Request-to-Send screen is stored, and a control section 11 makes display a telephone directory on a display 10 according to the access. In addition, what is necessary is just to use data communication facility, such as a browser, for access. Drawing 5 is the display screen displayed in that case. As shown in this drawing, the notice necessity block (telephone number transmitting necessity flag) 18 is matched with each user's name field 16 and telephone number column 17 which were registered into the telephone directory. And a user operates the data input section 15 and enters necessity in each user's notice necessity block 18. When it could do, made it make it moreover, better [to carry out by the so-called off-line processing, although this processing could be performed with the communication line between the move terminal 1 and the maintenance center 5 connected]. Thereby, edit a notice first-move number list into real time, and it becomes unnecessary to transmit to it at the time of the

above-mentioned notice reception, and when User's A convenience is good, a notice first-move number list can be edited and it can be made to transmit.

[0024] ST3 is a list check step which displays two list confirmation buttons, a confirmation button 20 and the cancellation button 21, while it generates a user's name and the telephone number which were chosen as a notice important point in the display step ST 2 as a list 19 and displays them, as shown in drawing 6 . And the notice first-move number list with which a user consists of name and the telephone number of the user concerned in a control section 11 by choosing a confirmation button 20 is generated.

[0025] ST4 is a transmitting check step which displays two transmitting confirmation buttons, the transmitting button 23 and the cancellation button 24, while displaying the send list 22 of the user's name and the telephone number which were chosen as a notice important point in the list check step, as shown in drawing 7 . And the above-mentioned notice first-move number list is outputted from a control section 11 because a user chooses the transmitting button 23, and this notice first-move number list is transmitted from a sending signal and the after [a multiplex] antenna 13 (timing T2). In addition, processing will be ended if the cancellation buttons 21 and 24 are chosen in these STs3 or ST4.

[0026] ST5 is whether the notice first-move number list received in the maintenance center 5 accepts a list Request to Send (it is got blocked). User A changes the telephone number, and before the notice first-move number list reception from User A, the notice first-move number list Request to Send is transmitted from the maintenance center 5 to User A, The list judgment step which judges that the received notice first-move number list is transmitted to a row from the move terminal 1 of User's A new telephone number, ST6 is a notice generation step which generates the notice of a changed number which contains the identifier 25 of the above-mentioned user's A registration name 28, the old telephone number 26, the new telephone number 27, and the message itself as shown in drawing 8 to each user of the list concerned. And the notice of a changed number concerned is transmitted one by one to each user on a notice first-move number list (timing T3 and T4). In addition, the 3rd malicious person's move terminal 1 can prevent transmitting the false notice of a changed number by judging whether the notice first-move number list received in this way accepts a list Request to Send.

[0027] ST7 is an improper notice generation step which generates a notice of changed number transmitting improper notice, when a notice first-move number list is not a thing according to the list Request to Send in the list judgment step ST 5. And this notice of changed number transmitting improper notice is transmitted to the move terminal 1 which transmitted the notice first-move number list (timing T5). ST8 is an improper notice receiving step which receives this notice of changed number transmitting improper notice, and performs the alarm display according to it etc.

[0028] In the move terminal 1 of the user P by whom, as for ST9, the notice of a changed number was transmitted The notice of changed number receiving step at which this notice of a changed number is received and reception is made in the control section 11 of the move terminal 1, The registration existence judgment step ST10 judges the existence of the old telephone number of the user A notified of the control section 11 concerned by telephone directory reference to be, As for the changed-number step and ST33 by which the old telephone number concerned is changed into the new telephone number, User's A telephone number is changed, and, as for ST11, a control section 11 the purport by which the telephone directory was updated by displaying on a display 10 It is the notice step which tells the user who is the carrier of the move terminal 1 about the telephone directory having been updated. In addition, it can be decided whether carry out this notice step ST 33 when a user sets up beforehand. And as a result of processing by the above-mentioned registration existence judgment step ST 10 and the changed-number step ST 11, as shown, for example in drawing 9 , when User's A old telephone number "000-1111-2222" is registered into the telephone directory, the old telephone number concerned will be changed and registered into the new telephone number "012-3456-7890", as shown in drawing 10 . In addition, in these drawings, 29 is the registration telephone number column and 30 is the user-name-registration-column. And when there is no old telephone number of User A in a telephone

directory, processing is ended, without changing a telephone directory. Moreover, the notice of a changed number is the same processing step in the move terminal of transmitted another user Z from ST12, and ST14 and ST34 omit explanation.

[0029] As mentioned above, the move terminal 1 with which the individual telephone number was assigned to each while having the telephone directory and the data transceiver function according to the gestalt 1 of this operation, In mobile communication system equipped with this move terminal 1, the exchange 3 which establishes the communication line of one comrades, and the communication line 4 which connects exchange 3 comrades The home location register 6 which matches and memorizes the telephone number of the old move terminal and the telephone number of a new move terminal which the user uses for the cable network constituted by the above-mentioned exchange 3 and the communication line 4 for every terminal change user, Data reception of two or more of other users' telephone number registered into the telephone directory from the above-mentioned new move terminal 1 is carried out. The maintenance center 5 which carries out data transmission of the telephone number of the above-mentioned terminal change user's new move terminal 1 individually to the move terminal of two or more of other users concerned is formed. Since the control section 11 which registers into a telephone directory the telephone number by which data transmission was carried out from the above-mentioned maintenance center 5 was formed in the above-mentioned move terminal 1, when a terminal change user's telephone number is changed into it The maintenance center 5 can receive the telephone number of two or more of other users of a telephone directory from the user's move terminal 1, can transmit the telephone number of the above-mentioned terminal change user's new move terminal 1 individually to the move terminal 1 of two or more of other users concerned, and can change the registered telephone number.

[0030] therefore, the need of doing the work whose terminal change user itself operates the move terminal 1, and transmits the telephone number to the user of each ** -- there is nothing -- moreover -- being concerned -- others -- in a user, it is not necessary to register into a telephone directory personally the telephone number transmitted one by one That is, since its registration number in other users' move terminal 1 can be automatically changed according to the telephone number registered into the telephone directory even if it is the case where the telephone number is changed by move terminal 1 change etc., convenience becomes good very much in the cases, such as a change of the move terminal 1, and if easy, it is effective in this closing a change of a user's move terminal 1.

[0031] Moreover, since the telephone number of the new move terminal 1 is transmitted beforehand, the confusion by telephone number allocation change to the user accompanying a change is cancelable. and in only transmitting the telephone number of the new move terminal 1 to the line connection demand to the telephone number to the old move terminal 1 like before Such a problem is not produced, although it generated doubly in the time when the line connection demand to a new number is short with the circuit by the transmission and the load in a cable network was to increase as a result.

[0032] Furthermore, since there is no need of carrying out service which only transmits the telephone number of the new move terminal 1 to the line connection demand to the telephone number to the old move terminal 1 like before, the new move terminal 1 of the telephone number which the telephone number of the new move terminal 1 is not transmitted to many and unspecified persons, and is different is only offered, and it is effective in the ability to protect a user from serious troubles, such as a crank call.

[0033] Since the maintenance center 5 carries out data reception of a user's telephone number set as the notice important point based on the notice necessity set up for every registration user of a telephone directory according to the form 1 of this operation, the user who changed the telephone number has the effect which can notify only its required person of the new telephone number.

[0034] According to the form 1 of this operation, when the telephone number of a terminal change user's old move terminal 1 is registered, the maintenance center 5 Since updating registration of the telephone number of the old move terminal 1 concerned is carried out at the telephone number of the terminal change user to whom

it has been transmitted through the exchange 3 Other users who use the move terminal 1 concerned can generate and output the line connection demand to the new telephone number only by carrying out the same line connection operation (selection operation) as old to a terminal change user. It becomes unnecessary to be completely conscious of a terminal change user's move terminal 1 having been changed in other users by this, and convenience will improve very much.

[0035] Form 2. drawing 11 of operation is the flow view showing the notice processing of a changed number at the time of User's A telephone number being changed by change of the move terminal 1 etc. in the mobile communication system by the form 2 of implementation of this invention. In this drawing, ST15 and ST16 are steps carried out when User's A old telephone number notified in the registration existence judgment steps ST10 and ST13, respectively is not registered into a telephone directory, and are a number addition step which carries out additional registration of registration name and the new telephone number of the user A concerned newly at a telephone directory. And as a result of processing by the registration existence judgment step ST 10 (ST13) and the number addition step ST 15 (ST16), as shown, for example in drawing 12 , when User's A old telephone number "000-1111-2222" is not registered into a telephone directory, as shown in drawing 13 , additional registration of User's A registration name and the new telephone number "012-3456-7890" will be carried out. The composition and operation of those other than this are the same as that of the form 1 of operation, and omit explanation.

[0036] as mentioned above, according to the form 2 of this operation, when the telephone number of a terminal change user's old move terminal 1 is not registered, a control section 11 Since additional registration of user name and the telephone number concerned of the terminal change user concerned is carried out Other users who use the move terminal 1 concerned can generate and output the line connection demand to the new telephone number only by choosing a terminal change user from a telephone directory. It is effective in the convenience by a terminal change user's move terminal 1 having been changed in other users by this not being spoiled.

[0037] Form 3. drawing 14 of operation is the block diagram showing the composition of the move terminal 1 by the form 3 of implementation of this invention. The control section (registration means) to which the setting up function of the check mode in which telephone directory change processing and additional processing are performed after 31 obtains the registration confirmed by the user of the move terminal 1 in drawing, and the automatic mode which will perform telephone directory change processing and additional processing automatically if the telephone number is notified was added, and 32 are the mode register (setting maintenance means) hold the mode setting value for being prepared in the control section 31 concerned and choosing the above-mentioned mode. The composition of those other than this is the same as that of the form 2 of operation, and omits explanation.

[0038] Next, operation is explained. A user operates the data input section 15 in the time of purchase etc., and makes the value which specifies one of check mode and the automatic modes to be the above-mentioned mode register 32 hold.

[0039] Drawing 15 is a flow chart which shows processing of the control section 31 of the move terminal 1 at the time of receiving the notice of a changed number where such a setup is made. The mode judgment step which judges whether ST17 is check mode based on the set point of a mode register 32, or it is an automatic mode in drawing, The renewal registration step of automatic which performs the processing as the changed-number step ST 11 that ST18 is the same, The update process check step as which ST19 displays the contents of a notice of the notice of a changed number on a display 10, The updating necessity judgment step which judges whether ST20 is updated based on the selection input from the data input section 15 according to this display, ST21 the renewal registration step of a check and ST35 which perform the same processing as the changed-number step ST 11 by displaying the purport by which User's A telephone number was changed and the telephone directory was updated on a display 10 It is the notice step which tells the user who is the holder of the move-terminal 1 about the telephone directory having been updated. Moreover, the mode judgment step

which judges whether ST22 is check mode based on the set point of a mode register 32, or it is an automatic mode, ST23 the automatic addition registration step and ST36 which perform the same processing as the number addition step ST 15 by displaying the purport by which User's A telephone number was changed and the telephone directory was updated on a display 10 The notice step which tells the user who is the holder of the move terminal 1 about the telephone directory having been updated, The additional processing check step as which ST24 displays the contents of a notice of the notice of a changed number on a display 10, The additional necessity judgment step which judges whether ST25 is added based on the selection input from the data input section 15 according to this display, ST26 the check addition registration step and ST37 which perform the same processing as the number addition step ST 15 by displaying the purport by which User's A telephone number was changed and the telephone directory was updated on a display 10 It is the notice step which tells the user who is the holder of the move terminal 1 about the telephone directory having been updated.

[0040] In the form 3 of implementation of this invention, when drawing 16 receives the notice of a changed number in the state where it was set as check mode (ST19, ST24), it is the example of the notice check screen displayed on a display 10.

[0041] Drawing 17 is the example of the registration-confirmed screen displayed on a telephone directory in the state where it was set as check mode in case additional registration is carried out (ST21, ST26), updating registration and in the form 3 of implementation of this invention. As for the display column of the registration name of the user notified of 33, the display column of the telephone number of the user concerned with 34 [new], and 35, in drawing, an updating button and 36 are cancellation buttons. And if the updating button 35 or the cancellation button 36 is chosen where such a screen is displayed, judgment of registration necessity will be made according to it. Operation of those other than this is the same as that of the form 2 of operation, and omits explanation.

[0042] In addition, although a mode register 32 is formed in a control section 31 and this set up an automatic mode or check mode to the whole telephone directory with the gestalt 3 of this operation, for example, as shown in drawing 18 , the setting column 37 of the notice necessity of a number and the setting column 38 of the mode of operation of a control section 31 are formed in the telephone directory itself for every user, and you may make it change the mode of a control section 31 based on these.

[0043] As mentioned above, the check mode in which the telephone number is registered into a telephone directory after a control section 31 obtains the registration confirmed by the user of a personal digital assistant 1 according to the gestalt 3 of this operation, If data reception of the telephone number is carried out, while having the automatic mode which registers it into a telephone directory automatically Since the mode register 32 holding a setup which chooses one side of the two modes concerned was formed Other users who use the move terminal 1 concerned can prevent that the content of its own telephone directory will be changed carelessly, and each user is effective in the ability to use the automatic-registration function of this invention in accordance with each convenience.

[0044] Gestalt 4. drawing 19 of operation is the system configuration view showing the hardware composition of the whole mobile communication system by the gestalt 4 of implementation of this invention. In drawing, 39 is the maintenance center (relocation means) to which the function which answers the exchange 3 in the new telephone number though it is the old telephone number, if there is a circuit establishment demand signal to the user by whom the new telephone number and the old telephone number are registered, and outputs the notice of a changed number to the move terminal 1 which outputted the circuit establishment demand signal concerned after that was added. The composition of those other than this is the same as that of the gestalt 3 of operation, and omits explanation.

[0045] Next, operation is explained. Drawing 20 is the flow view showing processing when there is a circuit establishment demand signal to the user by whom the new telephone number and the old telephone number are registered in the mobile communication system by the gestalt 4 of implementation of this invention. In

drawing, time flows from a top to the bottom and, as for the right end vertical line, the left end vertical line shows processing [in / the move terminal 1 with the above-mentioned new user A / for processing / in / the maintenance center 39 / for processing / in / the exchange 3 / for the processing in the move terminal 1 of the user X who outputs a circuit establishment demand to the user A who changed / in the vertical line of the right-hand] / in a vertical line on the right] further. In addition, in advance of processing of this drawing, at the time of a change, name, the old telephone number, and the new telephone number of the user A concerned shall match, and shall be registered into the home location register 6.

[0046] And ST27 is a circuit establishment demand generation step by which the circuit establishment demand to User's A telephone number is generated according to the call origination operation in User X. And this circuit establishment demand is transmitted from the move terminal 1 concerned to the exchange 3 (timing T6), and the exchange 3 outputs a telephone number reference demand to the maintenance center 39 (timing T7).

[0047] It is the reference result information generation step to which the reference step and ST29 with which ST28 searches whether the telephone number by which the reference demand was made in the maintenance center 39 is registered into the home location register 6 as the old telephone number generate the reference result information which contains the user's new telephone number when there is a coincidence number. And this reference result information is transmitted to the exchange 3 which outputted the reference demand (timing T8).

[0048] the call origination first thing to do which ST30 determines the move terminal 1 of the new telephone number as the call origination point when the new telephone number is notified in this reference result information, and determines the move terminal 1 of the old telephone number as the call origination point when not notified -- a law -- it is a step And call origination is made from the exchange 3 to the move terminal 1 of this call origination point (timing T9). Moreover, if the move terminal 1 of the call origination point responds to call origination, a predetermined band will be assigned between the above-mentioned user's X move terminal 1, and the new move terminal 1 of the user A of the call origination point, and a circuit will be established. Then, these two move terminals 1 and 1 exchange a user's speech information and data information under the communications control of each transceiver way 8 comrades. Moreover, if line disconnection processing is made on one of the transceiver ways 8, the exchange 3 will release the above-mentioned band and will cut a circuit (timing T10).

[0049] ST31 is a notice generation step which generates the notice of a changed number containing the identifier of the above-mentioned user's A registration name, the old telephone number, the new telephone number, and the message itself in the maintenance center 39. And this notice of a changed number is transmitted to User's X move terminal 1 from the maintenance center 39 (timing T11). ST32 is a telephone directory registration processing step to which a control section 31 carries out processing shown in above-mentioned drawing 15 according to reception of this notice of a changed number. In addition, although the gestalt 4 of this operation explained the transmit timing of the notice of a changed number as after circuit establishment, this timing may be before circuit establishment. Moreover, it is not necessary to establish a transmission line automatically. Operation of those other than this is the same as that of the gestalt 3 of operation, and omits explanation.

[0050] As mentioned above, when the circuit establishment demand to the telephone number of the old move terminal 1 in the home location register 6 is made according to the gestalt 4 of this operation While establishing the maintenance center 39 which establishes a circuit to the telephone number of the new move terminal 1 in a cable network Since the maintenance center 39 concerned carries out data transmission of the telephone number of the above-mentioned new move terminal 1 to the circuit establishment demand origin further A terminal change user's new telephone number can be registered into the telephone directory of the move terminal 1 which outputted the circuit establishment demand, and even if a number is the user who is not registered beforehand, it is effective in it becoming unnecessary to do the work which updates the

telephone directory of itself, and convenience improving.

[0051]

[Effect of the Invention] As mentioned above, the move terminal with which the individual identification number was assigned to each while having the telephone directory and the data transceiver function according to this invention, In mobile communication system equipped with the exchange which establishes the communication line of these move terminals, and the communication line which connects the exchanges The home location register which matches and memorizes the identification number of the old move terminal and the identification number of a new move terminal which the user uses for the cable network constituted by the above-mentioned exchange and the communication line for every terminal change user, The receiving means which carries out data reception of two or more of other users' identification number registered into the telephone directory from the above-mentioned old move terminal or the new move terminal, The transmitting means which carries out data transmission of the identification number of the above-mentioned terminal change user's new move terminal individually to the move terminal of two or more of other users concerned is established. Since a registration means to register into a telephone directory the identification number by which data transmission was carried out from the above-mentioned transmitting means was prepared in the above-mentioned move terminal, when a terminal change user's identification number is changed into it A receiving means can receive the identification number of two or more of other users of a telephone directory from the user's move terminal, and a transmitting means can transmit the identification number of the above-mentioned terminal change user's new move terminal individually to the move terminal of two or more of other users concerned.

[0052] therefore, the need of doing the work whose terminal change user itself operates a move terminal, and transmits an identification number to the user of each ** -- there is nothing -- moreover -- being concerned -- others -- it is not necessary to register into a telephone directory personally the identification number transmitted one by one also in the user That is, since its registration number in other users' move terminal can be automatically changed according to the identification number registered into the telephone directory even if it is the case where an identification number is changed by move terminal change etc., convenience becomes good very much in the cases, such as a change of a move terminal, and if easy, it is effective in this closing a change of a user's move terminal.

[0053] Moreover, since the identification number of a new move terminal is transmitted beforehand, derangement by identification number allocation change to the user accompanying a change is cancelable. and in only transmitting the identification number of a new move terminal to the line connection demand to the identification number to the old move terminal like before Such a problem is not produced, although it generated doubly in the time when the line connection demand to a new number is short with the circuit by the transmission and the load in a cable network was to increase as a result.

[0054] Furthermore, since there is no need of carrying out service which only transmits the identification number of a new move terminal to the line connection demand to the identification number to the old move terminal like before, the new move terminal of an identification number which the identification number of a new move terminal is not transmitted to many and unspecified persons, and is different is only offered, and it is effective in the ability to protect a user from serious troubles, such as a crank call.

[0055] Since a receiving means carries out data reception of a user's identification number set as the notice important point based on the notice necessity set up for every registration user of a telephone directory according to this invention, the user who changed the telephone number has the effect which can notify only its required person of a new identification number.

[0056] In the move terminal which communicates mutually using the communication line established by the exchange using the individual identification number according to this invention Since it has a data transceiver means to transmit and receive data between the telephone directory which registers the identification number of other move terminals; and other move terminals; and a registration means to register into the telephone

directory concerned the identification number of the terminal change user transmitted through the exchange. When a terminal change user's identification number is changed, a receiving means can receive the identification number of two or more of other users of a telephone directory from the user's move terminal, and a transmitting means can transmit the identification number of the above-mentioned terminal change user's new move terminal individually to the move terminal of two or more of other users concerned.

[0057] therefore, the need of doing the work whose terminal change user itself operates a move terminal, and transmits an identification number to the user of each ** -- there is nothing -- moreover -- being concerned -- others -- it is not necessary to register into a telephone directory personally the identification number transmitted one by one also in the user. That is, since its registration number in other users' move terminal can be automatically changed according to the identification number registered into the telephone directory even if it is the case where an identification number is changed by move terminal change etc., convenience becomes good very much in the cases, such as a change of a move terminal, and if easy, it is effective in this closing a change of a user's move terminal.

[0058] Moreover, since the identification number of a new move terminal is transmitted beforehand, derangement by identification number allocation change to the user accompanying a change is cancelable. and in only transmitting the identification number of a new move terminal to the line connection demand to the identification number to the old move terminal like before. Such a problem is not produced, although it generated doubly in the time when the line connection demand to a new number is short with the circuit by the transmission and the load in a cable network was to increase as a result.

[0059] Furthermore, since there is no need of carrying out service which only transmits the identification number of a new move terminal to the line connection demand to the identification number to the old move terminal like before, the new move terminal of an identification number which the identification number of a new move terminal is not transmitted to many and unspecified persons, and is different is only offered, and it is effective in the ability to protect a user from serious troubles, such as a crank call.

[0060] According to this invention, when the identification number of a terminal change user's old move terminal is registered, a registration means. Since updating registration of the identification number of the old move terminal concerned is carried out at the identification number of the terminal change user to whom it has been transmitted through the exchange. Other users who use the move terminal concerned can generate and output the line connection demand to a new identification number only by carrying out the same line connection operation (selection operation) as old to a terminal change user. It becomes unnecessary to be completely conscious of a terminal change user's move terminal having been changed in other users by this, and convenience will improve very much.

[0061] According to this invention, when the identification number of a terminal change user's old move terminal is not registered, a registration means. Since additional registration of user name and identification number concerned of the terminal change user concerned is carried out. Other users who use the move terminal concerned can generate and output the line connection demand to a new identification number only by choosing a terminal change user from a telephone directory. It is effective in the convenience by a terminal change user's move terminal having been changed in other users by this not being spoiled.

[0062] After a registration means obtains the registration confirmed by the user of a personal digital assistant, while it is equipped with the mode in which an identification number is registered into a telephone directory, and the mode in which it will be automatically registered into a telephone directory if data reception of the identification number is carried out according to this invention. Since a setting maintenance means to hold a setup which chooses one side of the two modes concerned was established. Other users who use the move terminal concerned can prevent that the content of its own telephone directory will be changed carelessly, and each user is effective in the ability to use this function in accordance with each convenience.

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TECHNICAL FIELD

[The technical field to which invention belongs] This invention relates to the mobile communication system which establishes communication between move terminals because identification numbers, such as the telephone number and the Internet protocol address, are assigned for every move terminal and assign a communication line at the exchange based on this identification number, and relates to improvement which can raise convenience in case a user changes a move terminal and the identification number of the user concerned is especially changed with the change.

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PRIOR ART

[Description of the Prior Art] Conventionally, if possible, there was communication system for fixed-line telephones which establishes a circuit at the exchange, for example and closes communication of fixed-line telephone machines as communication system. And in the communication system for these fixed-line telephones, when telephone number allocation change arose with a move of a user etc., the method which notifies the new telephone number with voice to the fixed-line telephone machine which outputted the circuit establishment demand to the old fixed-line telephone number was adopted.

[0003] Moreover, when JP,7-298326,A has the circuit establishment demand to the old fixed-line telephone number, the communication system which deals with it as a thing to a new fixed-line telephone number is indicated. Drawing 21 is the system configuration view showing the hardware composition of this conventional whole communication system. The dispatch telephone with which 40 outputs the circuit establishment demand to the old fixed-line telephone number in drawing, The character representation machine by which 41 was connected to the dispatch telephone 40, the originating exchange in which 42 holds this dispatch telephone 40, The old telephone to which, as for 43, the old fixed-line telephone number was assigned, the old exchange in which 44 holds this old telephone 43, The new telephone to which, as for 45, the new fixed-line telephone number was assigned, the new exchange in which 46 holds this new telephone 45, and 47 and 48 are telephone trunk lines which connect these exchanges 42 and 44 and 46 comrades.

[0004] They are the memory which 49 is prepared in the old exchange 44, and the switch which performs circuit establishment processing based on the telephone number, and 50 are prepared in the old exchange 44, and matches and memorizes the old telephone number and the new telephone number, the audio output device with which 51 was prepared in the old exchange 44, and transfer equipment which 52 is prepared in the old exchange 44 and performs transfer processing.

[0005] Drawing 22 is a telephone number correspondence table memorized by the above-mentioned memory 50. As for 53, as for the new telephone number column and 55, in drawing, the old telephone number column and 54 are [a user's library-name column and 56] the written columns of a new user's existence of the old telephone number.

[0006] Next, operation is explained. If the circuit establishment demand to the old fixed-line telephone number is outputted from the dispatch telephone 40, the demand concerned will be transmitted from an originating exchange 42 to the old exchange 44. At the old exchange 44, the telephone number correspondence table where transfer equipment 52 is memorized by memory 50 is searched, and when the telephone number concerning the demand concerned is the old telephone number, the above-mentioned demand is further transmitted to the new exchange 46. At the new exchange 46, the new telephone 45 is called based on this transmitted circuit establishment demand, and when there is a response, the circuit between the new telephone 45 and dispatch telephone 40 is established. Then, these two telephones 40 and 45 exchange a user's speech information and data information.

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EFFECT OF THE INVENTION

[Effect of the Invention] As mentioned above, the move terminal with which the individual identification number was assigned to each in this invention while having the telephone directory and the data transceiver function, In mobile communication system equipped with the exchange which establishes the communication line of these move terminals, and the communication line which connects the exchanges The home location register which matches and memorizes the identification number of the old move terminal and the identification number of a new move terminal which the user uses for the cable network constituted by the above-mentioned exchange and the communication line for every terminal change user, The receiving means which carries out data reception of two or more of other users' identification number registered into the telephone directory from the above-mentioned old move terminal or the new move terminal, The transmitting means which carries out data transmission of the identification number of the above-mentioned terminal change user's new move terminal individually to the move terminal of two or more of other users concerned was established, and a registration means to register into a telephone directory the identification number by which data transmission was carried out from the above-mentioned transmitting means was prepared in the above-mentioned move terminal. Therefore, when a terminal change user's identification number is changed, a receiving means can receive the identification number of two or more of other users of a telephone directory from the user's move terminal, and a transmitting means can transmit the identification number of the above-mentioned terminal change user's new move terminal individually to the move terminal of two or more of other users concerned.

[0052] therefore, the need of doing the work whose terminal change user itself operates a move terminal, and transmits an identification number to the user of each ** -- there is nothing -- moreover -- being concerned -- others -- it is not necessary to register into a telephone directory personally the identification number transmitted one by one also in the user That is, since its registration number in other users' move terminal can be automatically changed according to the identification number registered into the telephone directory even if it is the case where an identification number is changed by move terminal change etc., convenience becomes good very much in the cases, such as a change of a move terminal, and if easy, it is effective in this closing a change of a user's move terminal.

[0053] Moreover, since the identification number of a new move terminal is transmitted beforehand, cancel derangement by identification number allocation change to the user accompanying a change, and receive the line connection demand to the identification number to the old move terminal like before. Such a problem is not produced, although it generated doubly in the time when the line connection demand to a new number is short with the circuit by the transmission and the load in a cable network was to increase as a result, when only transmitting the identification number of a new move terminal.

[0054] Furthermore, since there is no need of carrying out service which only transmits the identification number of a new move terminal to the line connection demand to the identification number to the old move terminal like before, the new move terminal of an identification number which the identification number of a

new move terminal is not transmitted to many and unspecified persons, and is different is only offered, and it is effective in the ability to protect a user from serious troubles, such as a crank call.

[0055] Since a receiving means carries out data reception of a user's identification number set as the notice important point based on the notice necessity set up for every registration user of a telephone directory according to this invention, the user who changed the telephone number has the effect which can notify only its required person of a new identification number.

[0056] In this invention, it has a data transceiver means to transmit and receive data between the telephone directory which registers the identification number of other move terminals, and other move terminals, and a registration means to register into the telephone directory concerned the identification number of the terminal change user transmitted through the exchange, in the move terminal which communicates mutually using the communication line established by the exchange using the individual identification number. Therefore, when a terminal change user's identification number is changed, a receiving means can receive the identification number of two or more of other users of a telephone directory from the user's move terminal, and a transmitting means can transmit the identification number of the above-mentioned terminal change user's new move terminal individually to the move terminal of two or more of other users concerned.

[0057] therefore, the need of doing the work whose terminal change user itself operates a move terminal, and transmits an identification number to the user of each ** -- there is nothing -- moreover -- being concerned -- others -- it is not necessary to register into a telephone directory personally the identification number transmitted one by one also in the user That is, since its registration number in other users' move terminal can be automatically changed according to the identification number registered into the telephone directory even if it is the case where an identification number is changed by move terminal change etc., convenience becomes good very much in the cases, such as a change of a move terminal, and if easy, it is effective in this closing a change of a user's move terminal.

[0058] Moreover, since the identification number of a new move terminal is transmitted beforehand, cancel derangement by identification number allocation change to the user accompanying a change, and receive the line connection demand to the identification number to the old move terminal like before. Such a problem is not produced, although it generated doubly in the time when the line connection demand to a new number is short with the circuit by the transmission and the load in a cable network was to increase as a result, when only transmitting the identification number of a new move terminal.

[0059] Furthermore, since there is no need of carrying out service which only transmits the identification number of a new move terminal to the line connection demand to the identification number to the old move terminal like before, the new move terminal of an identification number which the identification number of a new move terminal is not transmitted to many and unspecified persons, and is different is only offered, and it is effective in the ability to protect a user from serious troubles, such as a crank call.

[0060] In this invention, a registration means carries out updating registration of the identification number of the old move terminal concerned at the identification number of the terminal change user to whom it has been transmitted through the exchange, when the identification number of a terminal change user's old move terminal is registered. Therefore, it becomes unnecessary for other users who use the move terminal concerned to be able to generate and output the line connection demand to a new identification number only by carrying out the same line connection operation (selection operation) as old to a terminal change user, and to be completely conscious of a terminal change user's move terminal having been changed in other users by this, and convenience will improve very much.

[0061] In this invention, a registration means carries out additional registration of user name and identification number concerned of the terminal change user concerned, when the identification number of a terminal change user's old move terminal is not registered. Therefore, other users who use the move terminal concerned can generate and output the line connection demand to a new identification number only by choosing a terminal change user from a telephone directory, and it is effective in the convenience by a

terminal change user's move terminal having been changed in other users by this not being spoiled.

[0062] In this invention, after the registration means obtained the registration confirmed by the user of a personal digital assistant, while having the mode in which an identification number is registered into a telephone directory, and the mode in which it would be automatically registered into a telephone directory if data reception of the identification number is carried out, a setting maintenance means to hold a setup as which one side of the two modes concerned is chosen was established. Therefore, other users who use the move terminal concerned can prevent that the content of its own telephone directory will be changed carelessly, and each user is effective in the ability to use this function in accordance with each convenience.

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] Since the conventional communication system is constituted as mentioned above, if a user's telephone number arises with change (43->45) of telephone, it will be necessary to carry out redirection of the line connection demand to the old telephone number among the exchanges 42, 44, and 46, or to notify the new telephone number. If a communications traffic tends to increase remarkably or the user itself is going to perform the above-mentioned notice, the user concerned telephones to each telephone number, and that must be notified. the burden becomes large or consequently, further Since the new telephone number is not known when it begins after notice service of the above-mentioned new telephone number was closed, and other users telephone, the technical problem of it becoming impossible to contact etc. will arise.

[0008] By the way, in the mobile communication system using a move terminal, various kinds of new move terminals are thrown in every year, and it is in a commercial-scene trend which raises the convenience of the move terminal itself. And in spite of also changing the identification number in many cases by making a model change etc. in such a move terminal Since communication system for fixed-line telephone machines which was mentioned above in mobile communication system is used as it is fundamentally, The inconvenient pod confusion of the various kinds mentioned above generated with model change etc. in a user will arise, and in order to avoid such a problem, change of a move terminal is shelved in many cases.

[0009] It was made in order that this invention might solve the above technical problems, and it aims at obtaining the mobile communication system which raised convenience in case identification numbers, such as a user's telephone number, are changed.

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MEANS

[Means for Solving the Problem] The move terminal with which the individual identification number was assigned to each while the mobile communication system concerning this invention was equipped with the telephone directory and the data transceiver function, In mobile communication system equipped with the exchange which establishes the communication line of these move terminals, and the communication line which connects the exchanges The home location register which matches and memorizes the identification number of the old move terminal and the identification number of a new move terminal which the user uses for the cable network constituted by the above-mentioned exchange and the communication line for every terminal change user, The receiving means which carries out data reception of two or more of other users' identification number registered into the telephone directory from the above-mentioned old move terminal or the new move terminal, The transmitting means which carries out data transmission of the identification number of the above-mentioned terminal change user's new move terminal individually to the move terminal of two or more of other users concerned is established, and a registration means to register into a telephone directory the identification number by which data transmission was carried out from the above-mentioned transmitting means is prepared in the above-mentioned move terminal.

[0011] The mobile communication system concerning this invention carries out data reception of the identification number of the user by whom the receiving means was set as the notice important point based on the notice necessity set up for every registration user of a telephone directory.

[0012] The move terminal concerning this invention is equipped with a data transceiver means to transmit and receive data between the telephone directory which registers the identification number of other move terminals, and other move terminals, and a registration means to register into the telephone directory concerned the identification number of the terminal change user transmitted through the exchange, in the move terminal which communicates mutually using the communication line established by the exchange using the individual identification number.

[0013] The move terminal concerning this invention carries out updating registration at the identification number of the terminal change user by whom the identification number of the old move terminal concerned has been transmitted to the registration means through the exchange when the identification number of a terminal change user's old move terminal is registered.

[0014] As for the move terminal concerning this invention, a registration means carries out additional registration of user name and identification number concerned of the terminal change user concerned, when the identification number of a terminal change user's old move terminal is not registered.

[0015] The move terminal concerning this invention establishes a setting maintenance means to hold a setup as which one side of the two modes concerned is chosen while being equipped with the mode in which an identification number is registered into a telephone directory, and the mode in which it will be automatically registered into a telephone directory if data reception of the identification number is carried out, after a registration means obtains the registration confirmed by the user of a personal digital assistant.

[0016]

[Embodiments of the Invention] Hereafter, one gestalt of implementation of this invention is explained.

Gestalt 1. drawing 1 of operation is the system configuration view showing the hardware composition of the whole mobile communication system by the gestalt 1 of implementation of this invention. The move terminal which the telephone number from which 1 differs mutually, respectively is assigned in drawing, and each user uses, The base transceiver station which 2 gives radio between this move terminal 1, respectively, and 3 The exchange, The trunk line between the exchanges of the others [4] besides the exchange 3 concerned and illustration (communication line), 5 is equipped with the home location register 6 which matched two or more names and telephone numbers of a user, and offer of service and the maintenance center (the receiving means, transmitting means) which performs maintenance to the move terminal 1, and 7 are base transceiver station control units which connect the exchange 3 and a base transceiver station 2. Hereafter, the settlement mutually connected by wire circuits, such as this base transceiver station 2, the exchange 3, a trunk line 4, the maintenance center 6, and the base transceiver station control unit 7, is called cable network. In addition, the above-mentioned trunk line 4 is connected to other equipment and other cable networks in mobile communication system. Moreover, this drawing is an example to the last.

[0017] Drawing 2 is the block diagram showing the composition of the move terminal 1 by the gestalt 1 of implementation of this invention. 11 is the data-storage section which memorizes the transceiver way which outputs the speech information from the user of others [**** / that 8 inputs a user's speech information], the telephone directory with which 9 consists of two or more names and telephone numbers of a user in drawing, the display on which 10 displays data information, a telephone directory, etc., and a control section equipped with the edit function and its I/O function of stored data of the data-storage section 9.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the system configuration view showing the hardware composition of the whole mobile communication system by the gestalt 1 of implementation of this invention.

[Drawing 2] It is the block diagram showing the composition of the move terminal by the gestalt 1 of implementation of this invention.

[Drawing 3] In the mobile communication system by the gestalt 1 of implementation of this invention, it is the flow view showing the notice processing of a changed number at the time of User's A telephone number being changed by change of a move terminal etc.

[Drawing 4] In the mobile communication system by the gestalt 1 of implementation of this invention, it is explanatory drawing showing the list Request-to-Send screen displayed on the display of a move terminal at the time of list Request-to-Send reception.

[Drawing 5] In the mobile communication system by the gestalt 1 of implementation of this invention, it is explanatory drawing showing the screen displayed on the display of a move terminal in a display step.

[Drawing 6] In the mobile communication system by the gestalt 1 of implementation of this invention, it is explanatory drawing showing the screen displayed on the display of a move terminal in a list check step.

[Drawing 7] In the mobile communication system by the gestalt 1 of implementation of this invention, it is explanatory drawing showing the screen displayed on the display of a move terminal in a transmitting check step.

[Drawing 8] In the mobile communication system by the gestalt 1 of implementation of this invention, it is explanatory drawing showing the screen displayed on the display of a move terminal in a notice generation step.

[Drawing 9] In the mobile communication system by the gestalt 1 of implementation of this invention, it is explanatory drawing showing the state of the telephone directory in front of a changed-number step.

[Drawing 10] In the mobile communication system by the gestalt 1 of implementation of this invention, it is explanatory drawing showing the state of the telephone directory after a changed-number step.

[Drawing 11] In the mobile communication system by the gestalt 2 of implementation of this invention, it is the flow view showing the notice processing of a changed number at the time of User's A telephone number being changed by change of a move terminal etc.

[Drawing 12] In the mobile communication system by the gestalt 2 of implementation of this invention, it is explanatory drawing showing the state of the telephone directory in front of a number addition step.

[Drawing 13] In the mobile communication system by the gestalt 2 of implementation of this invention, it is explanatory drawing showing the state of the telephone directory after a number addition step.

[Drawing 14] It is the block diagram showing the composition of the move terminal by the gestalt 3 of implementation of this invention.

[Drawing 15] When the move terminal by the gestalt 3 of implementation of this invention receives the notice

of a changed number, it is the flow chart which shows the processing which a control section performs.

[Drawing 16] In the mobile communication system by the gestalt 3 of implementation of this invention, when the notice of a changed number is received in the state where it was set as check mode, it is explanatory drawing showing the screen displayed on the display of a move terminal.

[Drawing 17] In the gestalt 3 of implementation of this invention, it is the example of the registration-confirmed screen displayed on a telephone directory in the state where it was set as check mode in case additional registration is carried out, updating registration and.

[Drawing 18] In the gestalt 3 of implementation of this invention, it is explanatory drawing showing the composition of other telephone directories.

[Drawing 19] It is the system configuration view showing the hardware composition of the whole mobile communication system by the gestalt 4 of implementation of this invention.

[Drawing 20] In the mobile communication system by the gestalt 4 of implementation of this invention, it is the flow view showing processing of the circuit establishment demand signal ***** case to the user by whom the new telephone number and the old telephone number are registered.

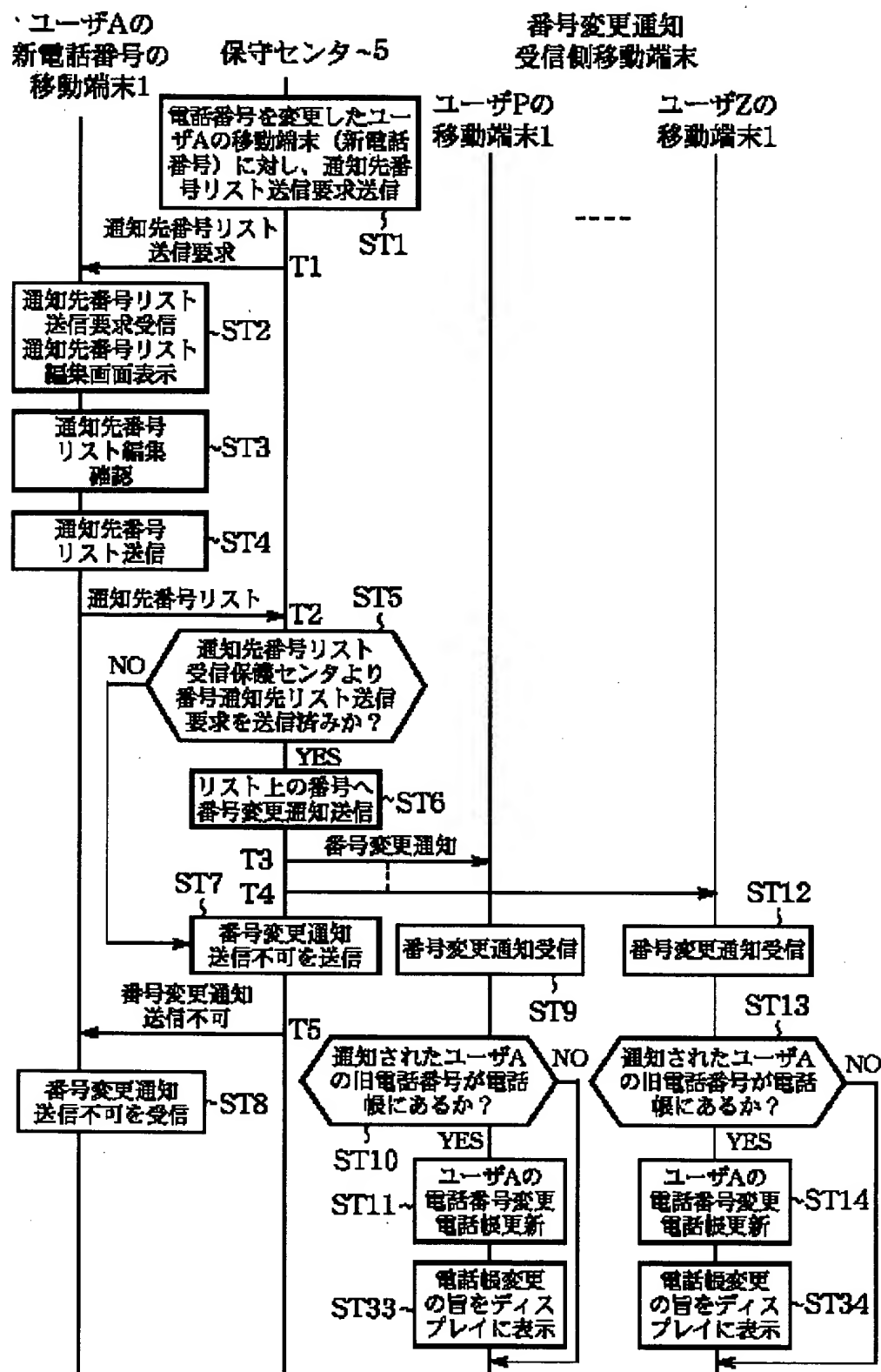
[Drawing 21] It is the system configuration view showing the hardware composition of this conventional whole communication system.

[Drawing 22] It is the telephone number correspondence table memorized by the memory of the exchange in the conventional communication system.

[Description of Notations]

1 Move Terminal, 2 Base Transceiver Station, 3 Exchange, 4 Trunk Line (Communication Line), 5 maintenance center (a receiving means, transmitting means), 6 Home location register, 7 base-transceiver-station control unit, 8 A transceiver way, 9 The data-storage section, 10 Display, 11 A control section (a registration means, data transceiver means), 12 Multiplexing section, 13 An antenna, 14 The transceiver section, 15 The data input section, 16 A user's name field, 17 The telephone number column, 18 Notice necessity block (telephone number transmitting necessity flag), 19 A list, 20 A confirmation button, 21 Cancellation button, 22 A send list, 23 A transmitting button, 24 Cancellation button, The identifier of the 25 messages itself, 26 The old telephone number, 27 New telephone number, 28 User's A registration name, 29 The registration telephone number column, 30 User name registration column, 31 A control section (registration means), 32 Mode register (setting maintenance means), 33 The display column of a user's notified registration name, 34 The display column of a user's new telephone number, and 35 An updating button, 36 A cancellation button, 37 The setting column of the notice necessity of a number, 38 The setting column of the mode of operation of a control section, 39 Maintenance center (relocation means).

[Translation done.]



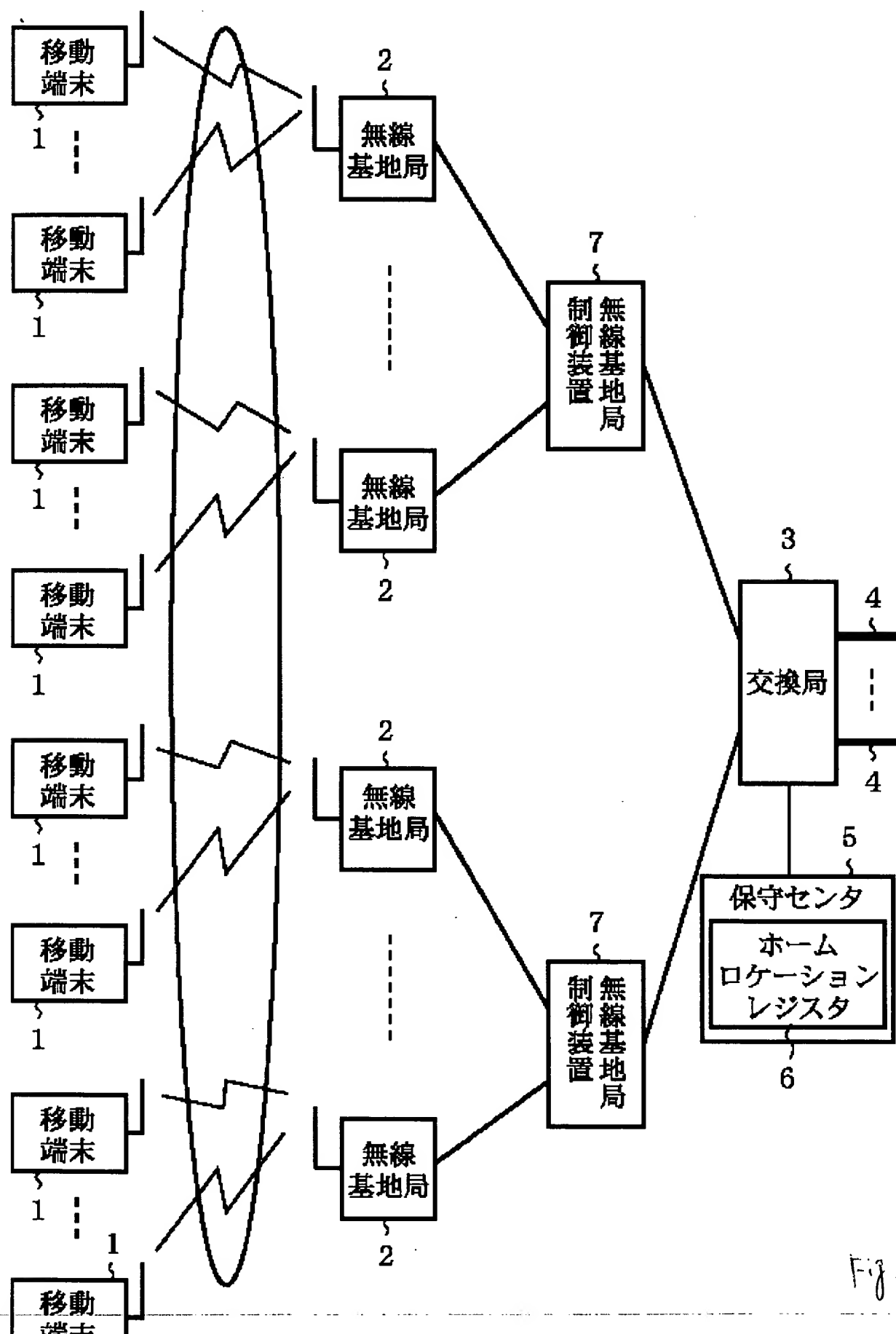


Fig-1

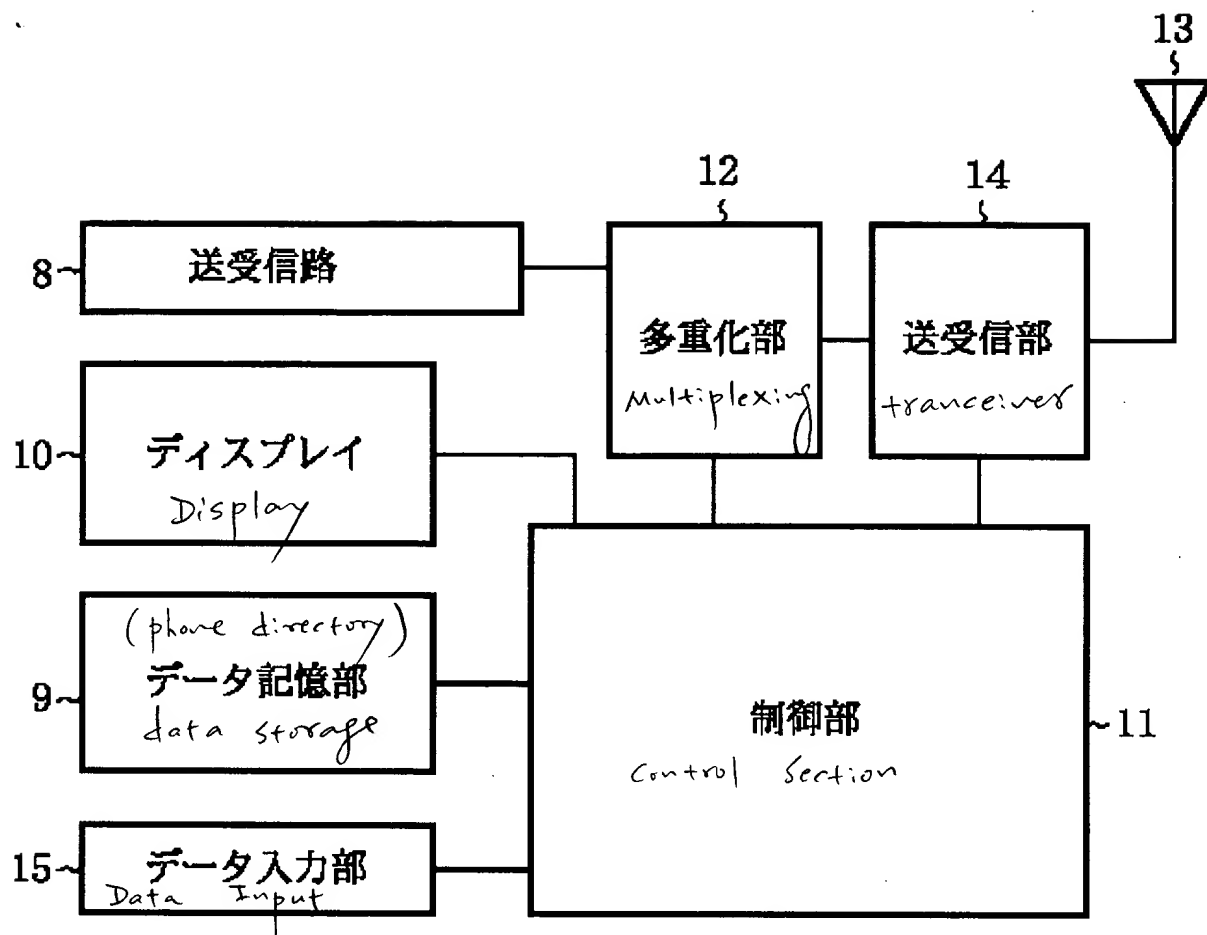


Fig. 2

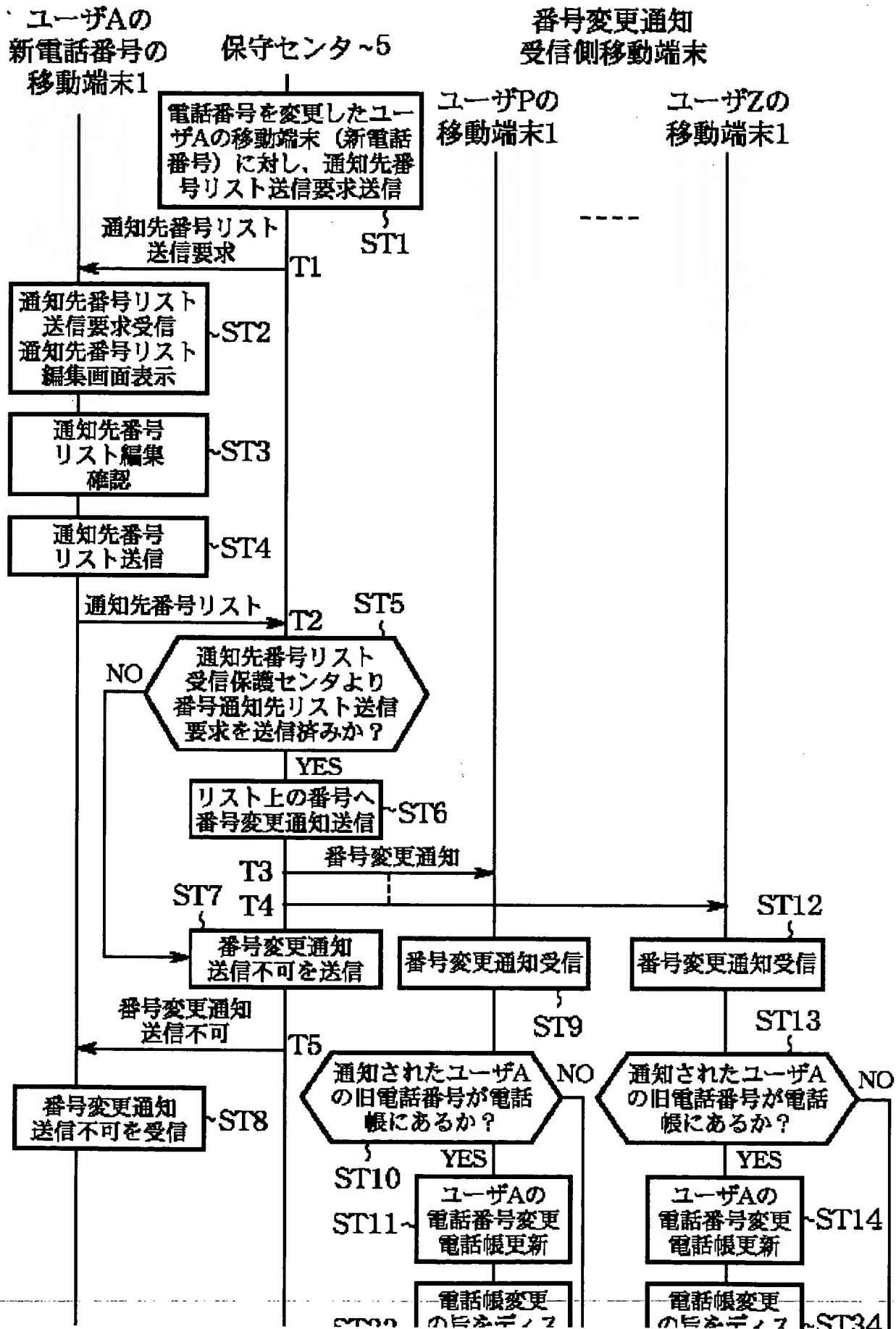


Fig. 3

To:000-1111-2222
From:maintenance-center
Subject:通知先番号リスト送信のお願い

番号変更通知のための通知先番号リストを送信いただくようお願いいたします。
ブラウザからこの下のアドレスにアクセスして下さい。

C:¥local-memory¥telephon-number-list

番号変更通知を通知する電話番号のリストの一覧が表示されます。
通知先をご指定し、ご確認の上、リストをご送付ください。
保守センタより番号変更通知を送信いたします。

Fig. 4

16 名前	17 電話番号	18 番号を通知するか (0: する, 1: しない)
P	000-0000-000	0
Q	111-1111-1111	0
R	222-2222-2222	1
S	333-3333-3333	0
T	444-4444-4444	1
⋮	⋮	⋮
Z	999-9999-9999	0

Fig. 5

通知先番号リスト一覧で“通知する”にチェックされている方へ
番号変更通知が送付されます。
通知するかどうかのチェック欄をご確認した後、確認ボタンを
押して下さい。

番号を通知するか		名前	電話番号
する	しない		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	P	000-0000-000
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Q	111-1111-1111
<input type="checkbox"/>	<input checked="" type="checkbox"/>	R	222-2222-2222
<input checked="" type="checkbox"/>	<input type="checkbox"/>	S	333-3333-3333
<input type="checkbox"/>	<input checked="" type="checkbox"/>	T	444-4444-4444
⋮	⋮	⋮	⋮
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Z	999-9999-9999

19

確認

キャンセル

20

21

Fig. 6

一覧表の方々へ番号変更通知を送付します。
よろしければ送信ボタンを押して下さい。

名前	電話番号
P	000-0000-000
Q	111-1111-1111
S	333-3333-3333
⋮	⋮
Z	999-9999-9999

22

送信

23

キャンセル

24

Fig. 7

25~	番号変更通知 メッセージ識別子	#000
26~	旧電話番号	000-1111-2222
27~	新電話番号	012-3456-7890
28~	ユーザ名	A

Fig. 8

29 S 電話番号	30 S 名前
000-1111-2222	A
111-2222-3333	B
⋮	⋮
888-9999-0000	N

Fig. 9

29 { 電話番号	30 { 名前
012-3456-7890	A
111-2222-3333	B
⋮	⋮
000-8888-9999	N

Fig. 10

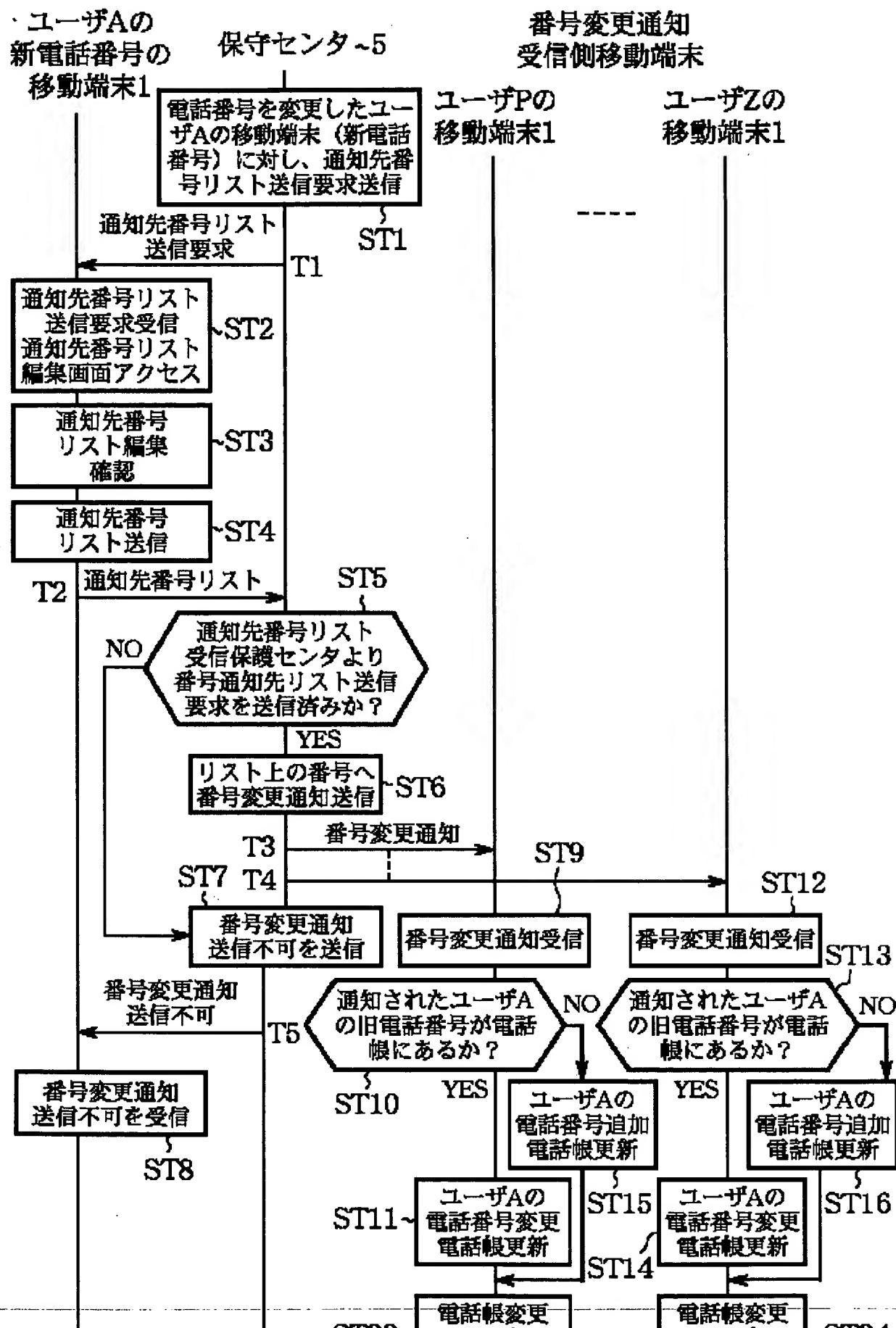


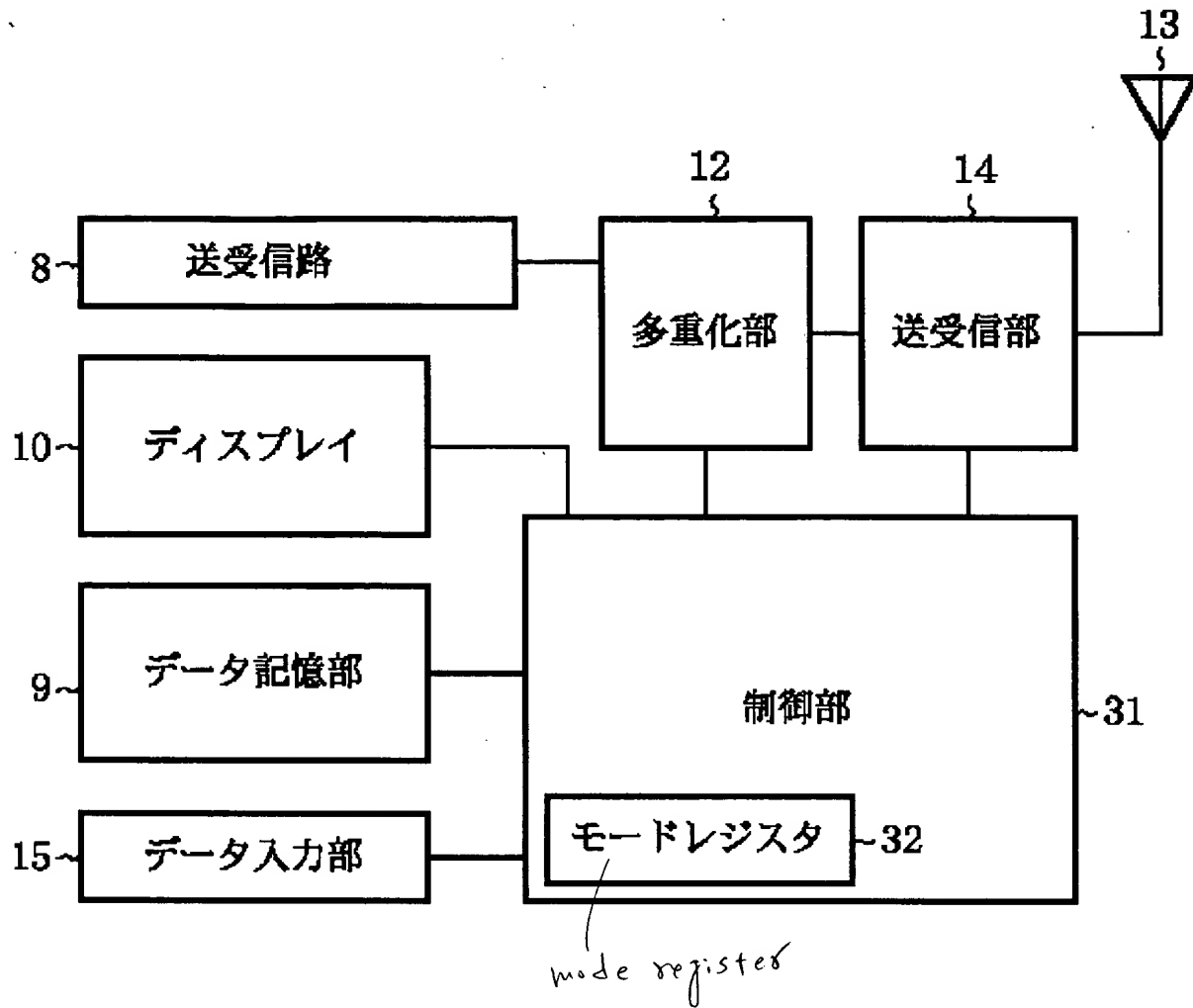
Fig. 11

29 電話番号	30 名前
111-2222-3333	B
222-3333-4444	C
⋮	⋮
888-9999-0000	N

Fig. 12

29 電話番号	30 名前
111-2222-3333	B
222-3333-4444	C
⋮	⋮
000-8888-9999	N
012-3456-7890	A

Fig. 13



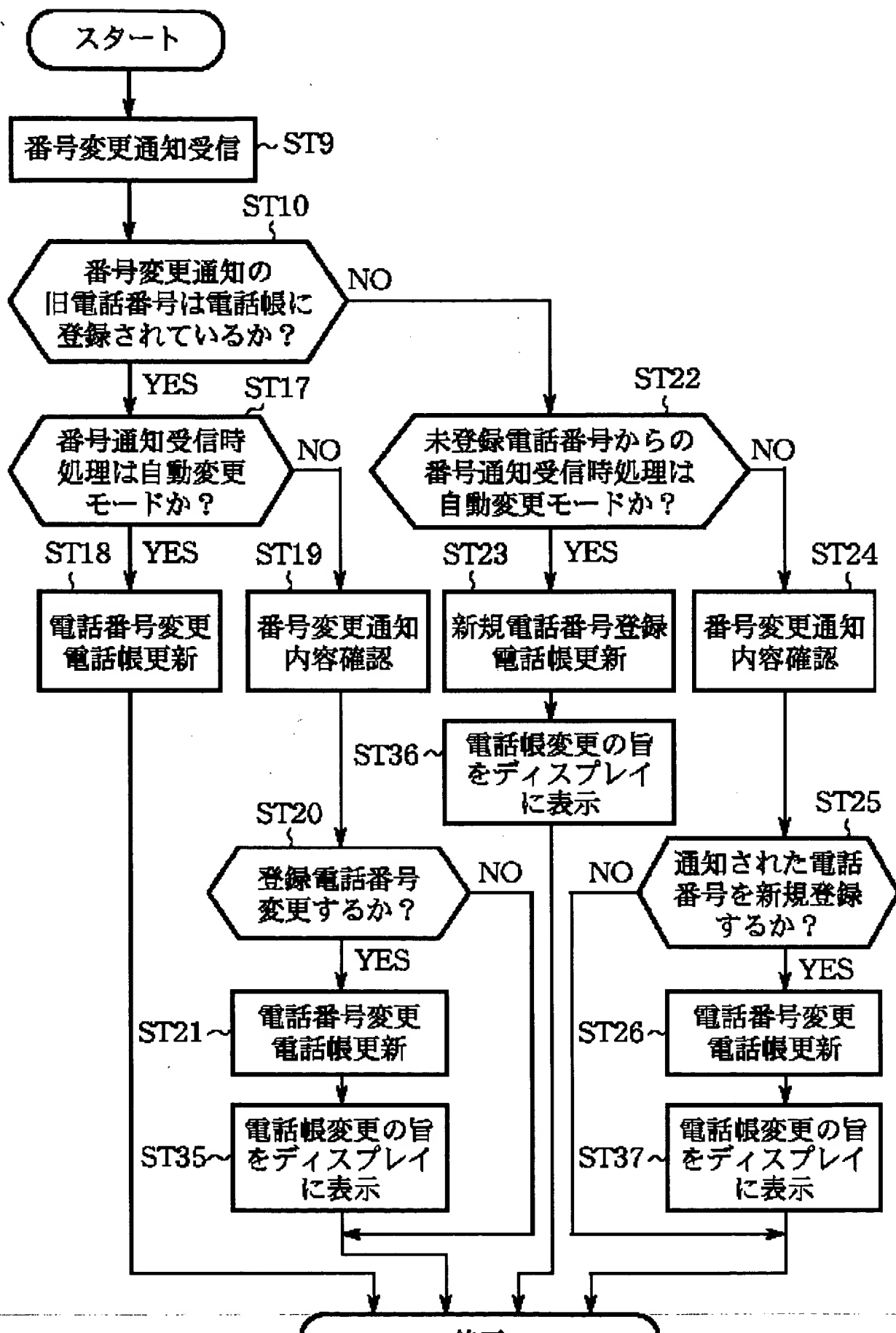


Fig. 15

To:000-0000-0000
From:maintenance-center
Subject:番号変更通知


番号変更通知が届いております。

ユーザ名 : A
旧電話番号 : 000-1111-2222
新電話番号 : 012-3456-7890。

電話帳に登録される場合には、
ブラウザから下のアドレスにアクセスして下さい。

C:¥local-memory¥change-tel-no

F:8-16

Drawing selection drawing 17 

電話帳の更新を行います。
内容をご確認した後、更新ボタンを押して下さい。

33~	名前	電話番号	~34
	A	012-3456-7890	

35~ 更新 キャンセル ~36

cancel

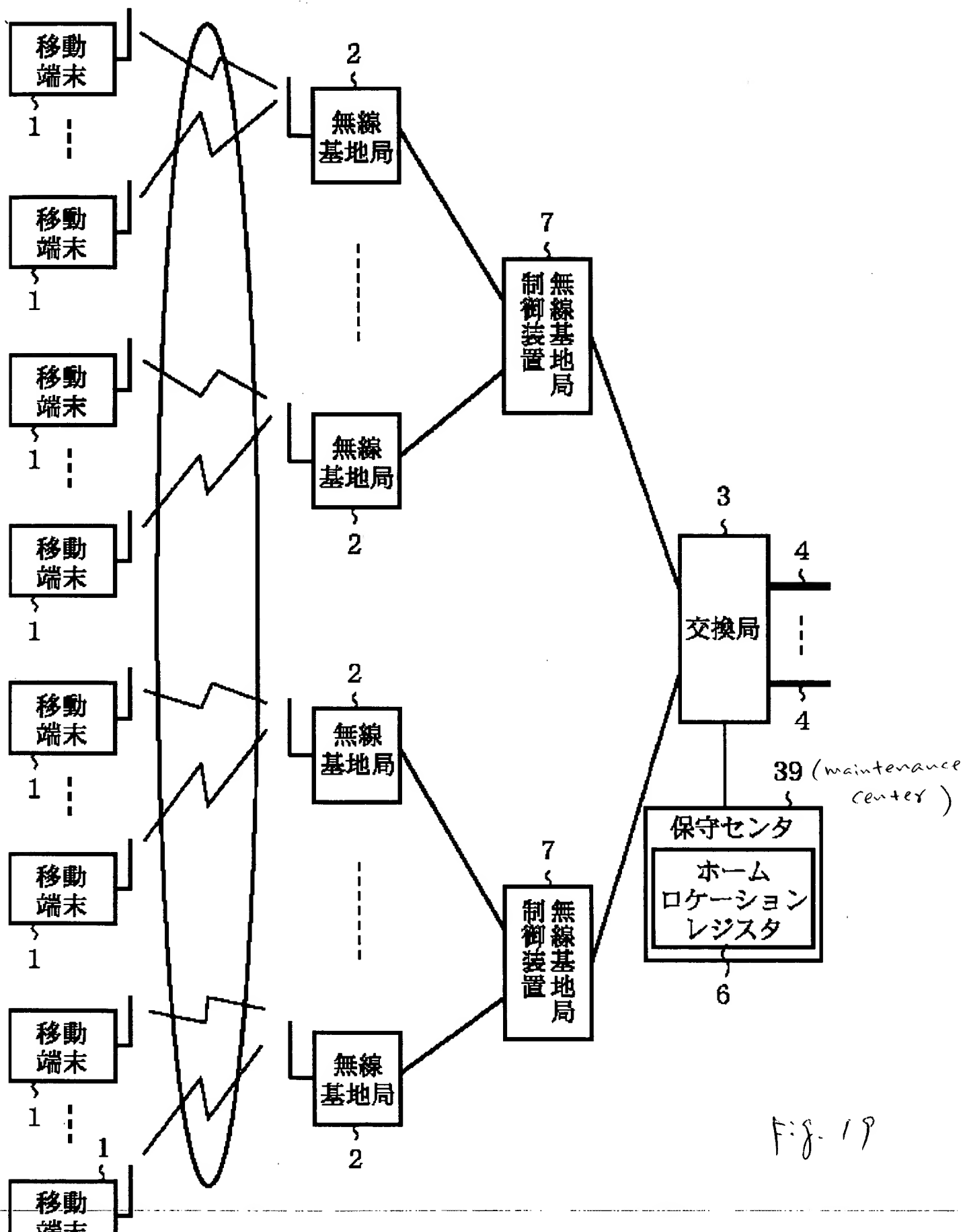
[Translation done.]

"check mode" to confirm
the update

Fig. 17

名前	電話番号	番号を通知するか (0: する, 1: しない)	自動変 (0: する,
P	000-0000-000	0	
Q	111-1111-1111	0	
R	222-2222-2222	1	
S	333-3333-3333	0	
T	444-4444-4444	1	
⋮	⋮	⋮	
Z	999-9999-9999	0	

Fig. 18



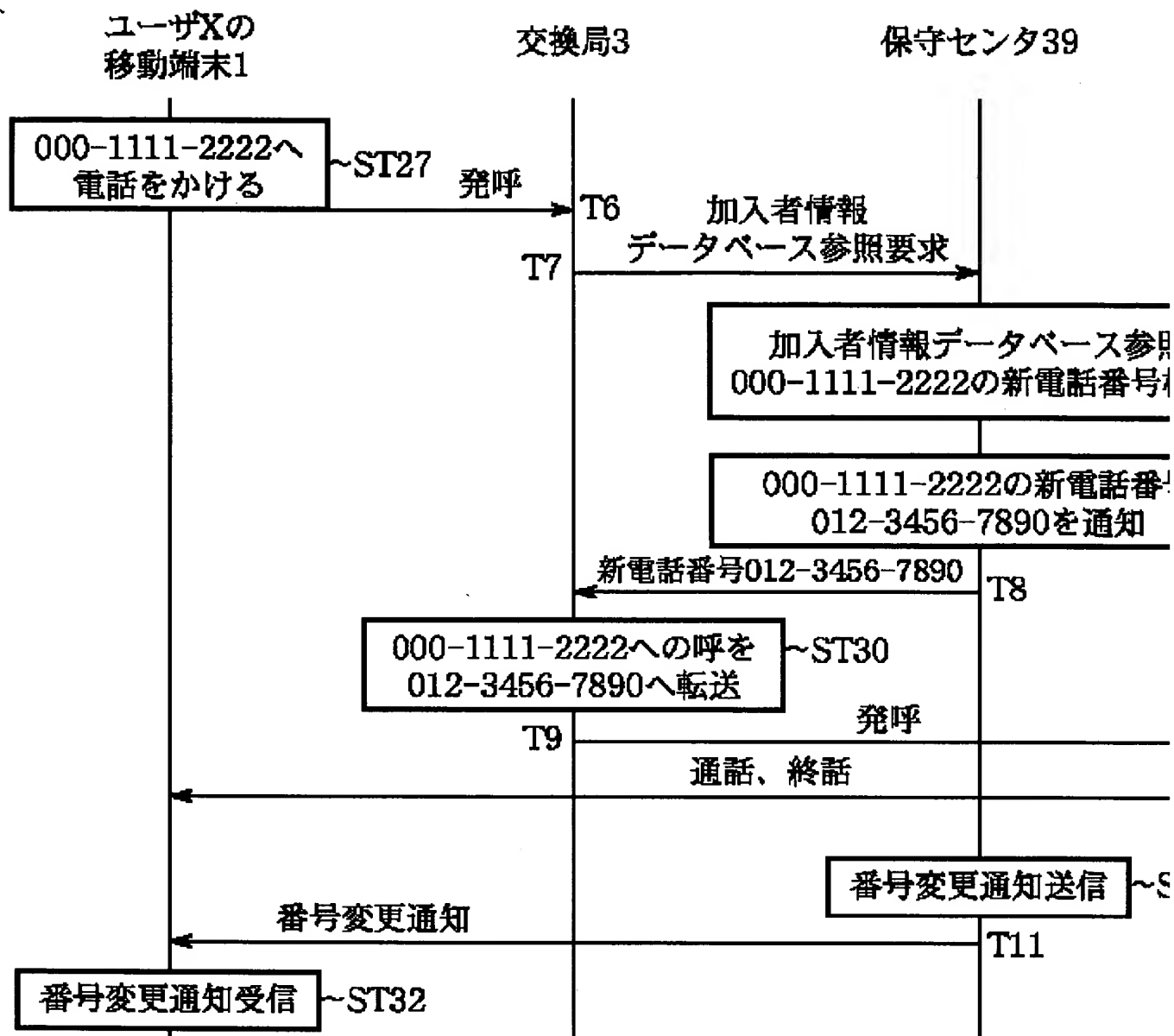


Fig. 20

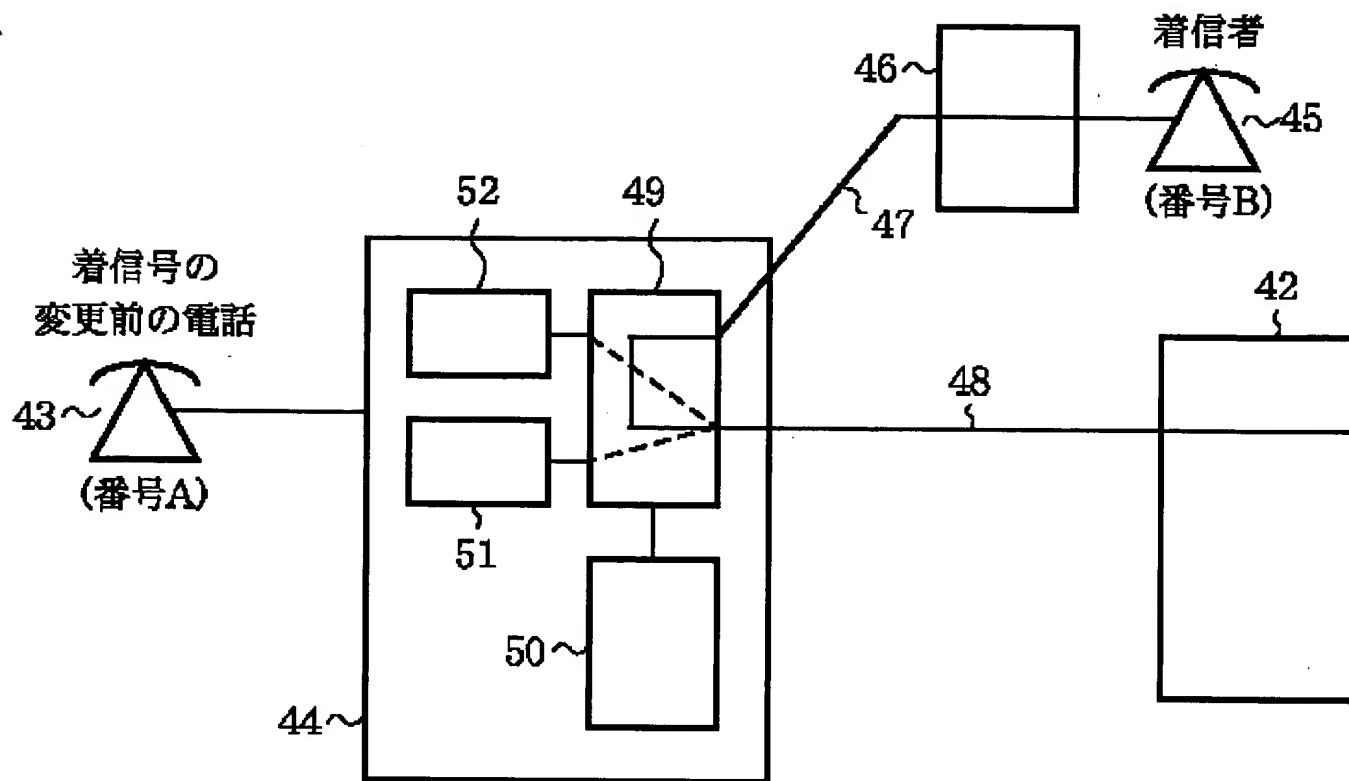


Fig. 21

メモリ143の内容 (番号変更テーブル)

旧電話番号	新電話番号	登録名	利用者用の有無
A	B	氏名	無
⋮	⋮	⋮	⋮
53	54	55	56

fig. 22

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